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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STEINBERG & RASKIN, P.C. 1140 AVENUE OF THE AMERICAS, 15th FLOOR NEW YORK, NY 10036-5803			EXAMINER KAO, CHIH CHENG G	
			ART UNIT 2882	PAPER NUMBER

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/767,602	ANDELL ET AL.	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/30/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both markings in figure 3b and an aiming ring in figures 5 and 6.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "11" has been used to designate both markings in figure 4 and a collimator plate in figure 6.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: (fig. 4, #52' and 53').

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, horizontal and vertical orientations of

Art Unit: 2882

the image data receiving means via connections means must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Art Unit: 2882

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

Claim Objections

4. The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

5. Claims 1-3, 5-8, 11-15, 17, 19, 21, 22, 25-32, 34, and 35 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 1, line 4, "connecting it"; replacing "it" with - -said handle- -), (claim 2, line 6, "the proximity"; replacing "the" with - -a- -), (claim 2, lines 6-7, "proximity of its first end"; inserting a comma after "of", replacing "its" with - -a- -, and inserting - -of the said at least one aiming arm- - after "first end"), (claim 2, line 8, "its second end"; replacing "its" with - -a- -, and inserting - -of the said at least one aiming arm- -

Art Unit: 2882

after “second end”), (claim 3, line 2, “by which it”; replacing “it” with - -the handle- -), (claim 5, lines 1-2, “at least handle”; inserting - -one- - after “least”), (claim 5, line 5, “attached to it”; replacing “it” with - -the aiming arm- -), (claim 6, line 2, “the x-ray tube housing”; deleting “x-ray tube”), (claim 7, line 1, “the x-ray tube housing”; deleting “x-ray tube”), (claim 7, lines 1-2, “of the parts”; deleting “of the”), (claim 7, line 2, “fixed to it”; replacing “it” with - -said housing- -), (claim 8, line 3, “said x-ray tube housing”; deleting “x-ray tube”), (claim 11, line 1, “the said connection means”; changing the dependency of claim 11 from claim 9 to claim 10), (claim 11, line 3, “and which for vertical orientation”; deleting “which for”), (claim 12, line 9, “connecting it”; replacing “it” with - -said handle- -), (claim 12, line 12, “contact line and /or”; inserting a comma after “line”), (claim 12, line 12, “the x-ray source housing”; inserting - -an x-ray source- - before “housing” in line 4 of claim 12), (claim 13, line 1, “the said contact construction of a handle”; replacing “construction” with - -contact construction of a handle- - in line 10 of claim 12), (claim 13, line 3, “or a collimator or any”; inserting a comma after “collimator”), (claim 14, line 2, “its intended counter surface”; replacing “its” with - -an- -, and inserting - -of said curved surface- -), (claim 14, line 2, “they form”; replacing “they” with - -said curved surface and said intended counter surface- -), (claim 14, line 3, “in direction perpendicular”; inserting - -a- - before “direction”), (claim 14, line 3, “the x-ray beam”; replacing “the” with - -an- -), (claim 15, line 3, “thereto, corresponding”; inserting - -with- - before “corresponding”), (claim 15, line 3, “corresponding wholes or recesses”; inserting - -to- - after “corresponding”, and replacing “wholes” with - -holes- -), (claim 17, line 2, “at or at”; deleting the comma before “at” and inserting a comma before “or”), (claim 17, line 2, “the proximity” replacing “the” with - -a- -), (claim 17, line 2, “proximity of”; inserting a comma

Art Unit: 2882

after “of”), (claim 17, line 2, “the said second end”; replacing “the said” with - -a- -), (claim 17, line 2, “of it”; replacing “it” with - -the said aiming arm- -), (claim 19, line 1, “the said connection means”; inserting - -connection- - before “means 54, 55” in line 2 of claim 18), (claim 21, line 1, “the x-ray tube housing”; replacing “tube” with - -source- -), (claim 21, lines 1-2, “any of the parts”; deleting “of the”), (claim 21, line 2, “to it”; replacing “it” with - -said housing- -), (claim 22, line 3, “said x-ray tube housing”; replacing “tube” with - -source- -), (claim 25, line 2, “the said connection means”; changing the dependency of claim 25 from claim 12 to claim 24), (claim 26, line 2, “where the image”; replacing “where” with - -wherein- -), (claim 26, line 3, “the x-ray beam”; replacing “the” with - -an- -), (claim 26, line 5, “the aiming arm – sensor holder assembly”; replacing “the” with - -an- -), (claim 26, line 6, “the distance”; replacing “the” with - -a- -), (claim 26, line 6, “from it”; replacing “it” with - -said handle- -), (claim 27, line 1, “one handle attached”; inserting - -is- - after “handle”), (claim 27, line 2, “source – image data”; replacing the hyphen with - -to- -), (claim 28, line 1, “the position”; replacing “the” with - -a- -), (claim 28, line 1, “said at least handle”; inserting - -one- - before “handle”), (claim 28, line 2, “the two”; replacing “two” with - -handle and the aiming arm- -), (claim 29, line 1, “the x-ray tube”; replacing “tube” with - -source- -), (claim 29, “the x-ray source”; replacing “the” with - -an- -), (claim 30, line 2, “where the image data”; replacing “where” with - -wherein- -), (claim 30, line 3, “the x-ray beam”; replacing “the” with - -an- -), (claim 30, line 5, “the aiming arm”; replacing “the” with - -an- -), (claim 31, line 3, “contact line and/ or at”; inserting a comma after “line”), (claim 31, line 4, “the x-ray source housing”; replacing “the” with - -an- -), (claim 31, line 4, “the collimator”; replacing “the” with - -a- -), (claim 32, line 1, “wherein for the first a desired”; deleting “for the first”), (claim 32, line 4,

Art Unit: 2882

“inside patient’s”; inserting - a- - after “inside”), (claim 32, line 5, “the said contact”; deleting “the said”), (claim 32, line 6, “its counter surface”; replacing “its” with - a- - and inserting - of said handle- - after “counter surface”), (claim 32, line 6, “the sensor”; replacing “the” with - a- -), (claim 34, line 1, “the contact”; deleting “the”), (claim 34, lines 1-2, “the x-ray device”; replacing “device” with - source- -), (claim 35, line 1, “the contact”; deleting “the”), (claim 35, line 2, “the outer surface”; replacing “the” with - an- -), (claim 35, line 2, “the collimator”; replacing “the” with - a- -), and (claim 35, line 3, “x-ray source” deleting the period before “ray”).

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-25, 28, 29, and 32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Regarding the following phrases: (claim 2, line 4, “preferably”), (claim 2, line 5, “may be”), (claim 3, line 2, “may be”), (claim 4, line 2, “may be”), (claim 5, line 2, “may be”), (claim 5, line 3, “may be”), (claim 5, line 4, “such as”), (claim 6, line 2, “such as”), (claim 12, line 6, “may be”), (claim 18, line 2, “may be”), (claim 20, line 2, “may be”), (claim 28, line 3, “may

be”), and (claim 32, line 3, “possibly”), the above phrases render the claims indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Claims 3-11, 13-25, and 29 are also respectively indefinite for the above reason(s) by virtue of their dependency.

8. Regarding claim 15, the phrase "or the like" in line 2 renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). Claims 16 and 17 are also indefinite for the above reason by virtue of their dependency.

9. Regarding claim 29, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 29 recites the broad recitation “wherein the x-ray source is positioned with respect to the said at least one handle by visually using a reference point on an x-ray source housing or any part attached thereto”, and the claim also recites “especially by bringing a contact or connection structure being part of the x-ray source housing or any part attached thereto into contact with the said at least one handle” which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Eppinger et al. (US Patent 6343875).

11. Regarding claim 1, Eppinger et al. discloses an assembly comprising at least one aiming arm (fig. 2, #12) connectable to a holder (fig. 2, #60) for image data receiving means (fig. 2, #21), and at least one handle (fig. 2, handle between #12 and 13), said handle (fig. 2, handle between #12 and 13) including means for connecting (fig. 2, means between #12 and 13) said handle (fig. 2, handle between #12 and 13) to said at least one aiming arm (fig. 2, #12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-4, 7, 30-32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al. as applied to claim 1 above, and further in view of Updegrave (US Patent 3473026).

13. Regarding claim 2, Eppinger et al. discloses an assembly as recited above. Eppinger et al. further discloses wherein said assembly is a part of a system including an intra oral x-ray device (title) which is to be positioned with respect to an intra oral image data receiving means (fig. 2, #21).

However, Eppinger et al. does not disclose an x-ray source being placed in a housing, at least one aiming arm being connectable to a handle at, or at a proximity of, a first end of said aiming arm, and to a holder for an image data receiving means directly at a second end of said aiming arm.

Updegrave teaches an x-ray source being placed in a housing (fig. 4, #46), at least one aiming arm (fig. 2, #42) being connectable to a handle (fig. 2, #38) at, or at a proximity of, a first end of said aiming arm (fig. 4, #42), and to a holder (fig. 2, area around #22) for an image data receiving means (fig. 2, #22), via a bite block (fig. 2, #21), at a second end of said aiming arm (fig. 2, #42).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. with the source, arm, and handle of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

14. Regarding claim 3, Eppinger et al. further discloses wherein the said at least one handle (fig. 1, handle between #12 and 13) is connected to the aiming arm (fig. 1, #12) via means (fig. 1, means between #12 and 13) by which the handle may be moved (col. 2, lines 50-52) along the aiming arm (fig. 1, #12).

15. Regarding claim 4, Eppinger et al. would necessarily have wherein the assembly includes means by which an x-ray source may be brought repeatedly (col. 2, lines 50-52) into at least one constant distance position and/or into known distance positions from the image data receiving means (fig. 2, #21).

16. Regarding claim 7, Eppinger et al. further discloses wherein any part fixed to housing includes at least one connector or contact element (fig. 2, #13) for the said at least one handle (fig. 2, handle between #12 and 13).

17. Regarding claim 30, Eppinger et al. discloses a method for aiming an x-ray source with respect to a position of an intra oral image data receiving means (fig. 2, #21), wherein the image data receiving means (fig. 2, #21) is attached to an aiming arm (fig. 2, #12), wherein the aiming

Art Unit: 2882

arm (fig. 2, #12) is further equipped with a handle, which handle is used as a gripping part (fig. 2, handle and gripping part between #12 and 13).

However, Eppinger et al. does not specifically disclose an aiming arm used as an aid in aiming an x-ray beam to an image data receiving mean, and using a handle in maneuvering an aiming arm – sensor holder – assembly and as an aligning tool for aiming an x-ray beam produced by an x-ray source:

Updegrave teaches an aiming arm (fig. 4, #42) used as an aid in aiming an x-ray beam (fig. 4, x-ray beam from #46) to an image data receiving mean (fig. 4, #22), and using a handle (fig. 4, #38) in maneuvering an aiming arm – sensor holder – assembly (fig. 4, #42 and 22) and as an aligning tool for aiming an x-ray beam produced by an x-ray source (fig. 4, #46).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Eppinger et al. with the aiming of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

18. Regarding claims 31, 32, and 34, Eppinger et al. as modified above suggests a method as recited above.

However, Eppinger et al. does not specifically disclose wherein an x-ray beam is aligned by bringing an x-ray source into contact with a contact construction arranged in a handle, which is able to create at least two contact points, at least one contact line, and/or at least one contact surface with a surface of an x-ray source housing, wherein a desired positioning and aiming assembly containing a desired image data receiving means – sensor holder – aiming arm –

assembly, possibly also including a desired bite-block, is put together, after which the image data receiving means is place in a desired position inside a patient's mouth and an x-ray beam aligned and orientated by making contact between the handle and a counter surface of said handle or element while keeping a sensor stationary, and wherein contact between the handle and an x-ray source is releasable.

Updegrave teaches wherein an x-ray beam (fig. 4, beam from #46) is aligned by brining an x-ray source (fig. 4, #46) into contact with a contact construction (fig. 4, #43) arranged in a handle (fig. 4, #38), which is able to create at least two contact points, at least one contact line, and/or at least one contact surface with a surface of an x-ray source housing (fig. 4, #46), wherein a desired positioning and aiming assembly containing a desired image data receiving means – sensor holder – aiming arm – assembly, possibly also including a desired bite-block (fig. 4, assembly connected to #42), is put together, after which the image data receiving means (fig. 4, #22) is place in a desired position inside a patient's mouth (fig. 4) and an x-ray beam (fig. 4, beam from #46) aligned and orientated by making contact between the handle (fig. 4, #38) and a counter surface of said handle or element (fig. 4, #46) while keeping a sensor stationary (fig. 4, #22), and wherein contact between the handle (fig. 4, #38) and an x-ray source (fig. 4, #46) is releasable.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Eppinger et al. with the contact of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

19. Claims 5, 6, 26-29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al. and Updegrave as respectively applied to claims 4 and 30 above, and further in view of Kanbar et al. (US Patent 5289522).

20. Regarding claims 5 and 6, Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not specifically disclose means whereby at least one handle may be connected to at least one fixed position on an aiming arm, and/or means whereby the handle may be moved along the aiming arm, which includes indicia, showing the position of a handle attached to the aiming arm, and wherein there are arranged handle position indicia on an accessory attached thereto.

Kanbar et al. teaches means (col. 5, line 30) whereby at least one handle (fig. 6, #17) may be connected to at least one fixed position on an aiming arm (fig. 6, #13), and/or means (col. 5, line 30) whereby the handle (fig. 6, #17) may be moved along the aiming arm (fig. 6, #13), which includes indicia (col. 5, line 30), showing the position of a handle (fig. 6, #17) attached to the aiming arm (fig. 6, #13), and wherein there are arranged handle position indicia on an accessory attached thereto (col. 5, line 30).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. as modified above with the means of Kanbar et al., since one would be motivated to make such a modification to more easily indicate the distance of components (col. 5, lines 27-33) as implied from Kanbar et al.

Art Unit: 2882

21. Regarding claim 26, Eppinger et al. discloses a method wherein intra oral image data receiving means (fig. 2, #21) is attached to an aiming arm (fig. 2, #12), wherein the aiming arm (fig. 2, #12) is further equipped with at least one handle, which handle is used as a gripping part (fig. 2, handle and gripping part between #12 and 13).

However, Eppinger et al. does not specifically disclose an aiming arm used as an aid in aiming an x-ray beam to an image data receiving means, and using a handle as a fixed or an adjustable reference element with respect to a distance from said handle to image data receiving means.

Updegrave teaches an aiming arm (fig. 4, #42) used as an aid in aiming an x-ray beam (fig. 4, x-ray beam from #46) to an image data receiving means (fig. 4, #22). Kanbar et al. teaches using a handle (fig. 1, #17) as a fixed or an adjustable reference element (col. 5, line 30) with respect to a distance from a handle (fig. 1, #17) to image data receiving means (fig. 1, #11).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Eppinger et al. with the aiming of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Eppinger et al. with the reference of Kanbar et al., since one would be motivated to make such a modification to more easily indicate the distance of components (col. 5, lines 27-33) as implied from Kanbar et al.

22. Regarding claim 27, Eppinger et al. as modified above suggests a method as recited above.

However, Eppinger et al. does not seem to specifically disclose wherein at least one handle is attached to an aiming arm and is used to achieve a desired distance to image data receiving means by using the said at least one handle as a reference point in positioning for exposure.

Kanbar et al. further teaches wherein at least one handle (fig. 1, #17) is attached to an aiming arm (fig. 1, #13) and is used to achieve a desired distance to image data receiving means (fig. 1, #11) by using the said at least one handle as a reference point (col. 5, line 30) in positioning for exposure.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Eppinger et al. as modified above with the reference of Kanbar et al., since one would be motivated to make such a modification to more easily indicate the distance of components (col. 5, lines 27-33) as implied from Kanbar et al.

23. Regarding claim 28, Eppinger et al. further discloses wherein a position of the said at least one handle (fig. 2, handle between #12 and 13) on the aiming arm (fig. 2, #12) is not fixed and adjusted by arranging a connection (fig. 2, connection to #12) between the handle (fig. 2, handle between #12 and 13) and the aiming arm (fig. 2, #12) such that the handle (fig. 2, handle between #12 and 13) may be slid along the aiming arm (col. 2, lines 50-52).

Art Unit: 2882

24. Regarding claim 29, Eppinger et al. as modified above suggests a method as recited above.

However, Eppinger et al. does not disclose wherein an x-ray source is positioned with respect to a handle by visually using a reference point on a housing, especially by bringing a contact or connection structure being part of the housing into contact with the handle.

Updegrave teaches wherein an x-ray source (fig. 2, #46) is positioned with respect to a handle (fig. 4, #38) by visually using a reference point on a housing (fig. 2, #46), especially by bringing a contact or connection structure being part of the housing (fig. 2, #46) into contact with the handle (fig. 2, #38).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Eppinger et al. as modified above with the positioning via a reference point of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

25. Regarding claim 33, Eppinger et al. as modified above suggests a method as recited above.

However, Eppinger et al. does not disclose wherein two handles are arranged on an aiming arm.

Kanbar et al. teaches wherein two handles (fig. 1, #17 and 18) are arranged on an aiming arm (fig. 1, #13).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the method of Eppinger et al. as modified above with

the handles of Kanbar et al., since one would be motivated to make such a modification to provide more aiming options (fig. 1, 6, and 8) as implied from Kanbar et al. for more control.

26. Claims 8, 9, 12, 13, 18-23, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al. and Updegrave as respectively applied to claims 7 and 30 above, and further in view of Miles (US Patent 6038287).

27. Regarding claims 8, 9, 12, 22, 23, and 35, Eppinger et al. as modified above and below suggests an assembly and method as recited above. Eppinger et al. further discloses wherein the said connector or contact element is an integral part of an aiming ring (fig. 2, #13) connectable to an x-ray source.

However, Eppinger et al. does not specifically disclose an elongated collimator connectable to a housing, and connection in various orientations for supporting various imaging modes, wherein contact is made between a handle and an outer surface of a collimator of an x-ray source.

Miles teaches an elongated collimator (fig. 1, #14) connectable to a housing (fig. 1, #12), and connection in various orientations for supporting various imaging modes (figs. 10 and 11), wherein contact is made between a handle (fig. 1, #28) and an outer surface of a collimator (fig. 2, #14) of an x-ray source (fig. 1, #30).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. as modified above and below with the collimator and orientations of Miles, since one would be motivated to make such a

Art Unit: 2882

modification to more easily control the x-ray beam size and exposure area (figs. 1, 10, and 11) as implied from Miles.

28. Regarding claims 13, 18, and 19, Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not disclose wherein a contact construction of a handle includes a curved surface with a curvature equal to that of a surface of an x-ray source housing, wherein a handle is connected to an aiming arm via connections means by which it is not fixed and may be moved along the aiming arm, and wherein the connection means include at least one hollow-through in the handle with appropriate dimension with respect to that of the aiming arm.

Updegrave further teaches wherein a contact construction of a handle includes a curved surface (fig. 4, #43) with a curvature equal to that of a surface of an x-ray source housing (fig. 4, #46), wherein a handle (fig. 4, #38) is connected to an aiming arm (fig. 4, #42) via connections means by which it is not fixed and may be moved along the aiming arm (figs. 5 and 6), and wherein the connection means include at least one hollow-through in the handle (fig. 2, #38) with appropriate dimension with respect to that of the aiming arm (fig. 2, #42).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the device of Eppinger et al. as modified above with the contact construction of Updegrave, since one would be motivated to make such a modification to more easily align an x-ray beam (col. 1, lines 66-70) as implied from Updegrave.

29. Regarding claim 20, Eppinger et al. would necessarily have wherein the assembly includes means by which an x-ray source may be brought repeatedly (col. 2, lines 50-52) into at least one constant distance position and/or into known distance positions from the image data receiving means (fig. 2, #21).

30. Regarding claim 21, Eppinger et al. further discloses wherein any part fixed to housing includes at least one connector or contact element (fig. 2, #13) for the said at least one handle (fig. 2, handle between #12 and 13).

31. Claims 10, 11, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al., Updegrave, and Miles as respectively applied to claims 9 and 12 above, and further in view of Kanbar et al.

Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not specifically disclose wherein a handle includes two connection means for one aiming arm, intended for horizontal and vertical orientations of the image receiving means, correspondingly, and wherein the handle is provided with indicia of which of the said connections means is designed for horizontal and vertical orientation of the image data receiving means.

Kanbar et al. teaches wherein a handle (fig. 1, #17) includes two connection means (fig. 1, #18 and 19) for one aiming arm (fig. 1, #13), intended for horizontal and vertical orientations of the image receiving means (fig. 1, #11), correspondingly, and wherein the handle (fig. 1, #17) is provided with indicia (col. 5, line 30) of which of the said connections means (fig. 1, #18 and

Art Unit: 2882

19) is designed for horizontal and vertical orientation of the image data receiving means (fig. 1, #11).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. as modified above with the connections and indicia of Kanbar et al., since one would be motivated to make such a modification to more easily indicate the distance of components (col. 5, lines 27-33) as implied from Kanbar et al.

32. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al., Updegrave ('026), and Miles as applied to claim 13 above, and further in view of Updegrave (US Patent 4048506).

Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not specifically disclose wherein a surface is such that when brought into contact with its intended counter surface, the surface and its intended counter surface form an area of an elongated rectangle in a direction perpendicular to that of an x-ray beam produced by an x-ray source.

Updegrave ('506) teaches wherein a surface (fig. 7, #72) is such that when brought into contact with its intended counter surface (fig. 7, #58), the curved surface and its intended counter surface form an area of an elongated rectangle (fig. 7, #62) in a direction perpendicular to that of an x-ray beam produced by an x-ray source (fig. 7, #16).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. as modified above with the

Art Unit: 2882

rectangle of Updegrave ('506), since one would be motivated to make such a modification to more easily control the x-ray beam size and exposure area (fig. 7) as implied from Updegrave ('506).

33. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al., Updegrave ('026), Miles, and Updegrave ('506) as applied to claim 14 above, and further in view of Angotti et al. (US Patent 5090047).

Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not specifically disclose wherein a contact construction of a handle includes at least two pins or the like, and an x-ray source housing, or a part attached thereto, with corresponding holes or recesses, and wherein contact construction creates a three-point connection between at least one handle and housing, or a part attached thereto.

Angotti et al. teaches wherein a contact construction of a handle includes at least two pins or the like, and an x-ray source housing, or a part attached thereto, with corresponding holes or recesses (fig. 1, screws and holes between #24 and 26), and wherein contact construction creates a three-point connection between at least one handle (fig. 1, #24) and housing, or a part attached thereto (fig. 1, #26).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Eppinger et al. as modified above with the contact construction of Angotti et al., since one would be motivated to make such a modification for a stronger connection between components (fig. 1) as implied from Angotti et al.

34. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eppinger et al., Updegrave ('026), Miles, Updegrave ('506), and Angotti et al., as applied to claim 16 above, and further in view of Kanbar et al.

Eppinger et al. as modified above suggests an assembly as recited above.

However, Eppinger et al. does not specifically disclose wherein there are attached two handles to the aiming arm at, or at a proximity of, a second end of said aiming arm.

Kanbar et al. teaches wherein there are attached two handles (fig. 1, #18 and 19) to the aiming arm (fig. 1, #13) at, or at a proximity of, a second end of said aiming arm (fig. 1, #13).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to further incorporate the device of Eppinger et al. as modified above with the handles of Kanbar et al., since one would be motivated to make such a modification to provide more aiming options (fig. 1, 6, and 8) as implied from Kanbar et al. for more control.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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